



(to November 2, 2010 letter from Chuck Stilwell, Atlantic Richfield Co. to Dave Akers, CDPHE)

**St. Louis Adit
Water Treatment System
Rico, Colorado**

PROPOSED SCHEDULE

<u>Action</u>	<u>Expected Date</u>	<u>Key Schedule Factors</u>
<u>Water Quality Permit¹</u>		
Initial Permit Application	Aug. 3, 2010	Submitted, Complete
Initial Permit Review		
Provide Supplemental Data	Oct. 1, 2011	As required by CDPHE
Permit Issued ⁵	Sept. 2013	Based on CDPHE Schedule
<u>Water Treatment System²</u>		
Conceptual Design	Jan. 15, 2011	Complete, describe in AOC Work Plan
Initial (30%) Design	June 2011	Based on available data
Design Field Work	June – Sept. 2011	Data collection to supplement available data for design
Complete Design	March 2012	Complete design with 2011 data and permit limits from CDPHE
Phase 1 Construction Initiated	July 2012	
Phase 1 Construction Complete	Oct. 2013	
System start-up	Oct. 2013	Full Year Shakedown period following start-up (Oct. 2013 – Oct. 2014)
Permit Issued	Dec. 2013-Oct. 2014	Expect permit no earlier than December 2013 with enforcement of permit limits following shakedown period
<u>Solids Repository³</u>		
Preliminary Design Work	Sept. 2010-May 2011	
Design Field Work	Sept. 2011	Update preliminary design based upon Agency input
CD Application to Dolores Co.	Nov. 2011	Submit with Agency-approved design
CD Approved	May 2012	Estimate six-month review
Repository Construction	June-Oct 2012	
Solids Removal/Placement	Oct. 2012-July 2013	Accumulated solids removal from ponds and placement in repository is contingent upon repository construction completion
<u>Ponds⁴</u>		
Preliminary Assessment	Dec. 2010	Identify regulatory requirements for berm integrity
Field Assessment	Sept. 2011	Required geotechnical work completed
Design	Sept. - Dec 2011	
Construction – Phase 1	Sept. 2012	Upper Ponds
Construction – Phase 2	To follow USFS land transfer	Lower Ponds

Exhibit 1

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Footnotes:

1. Water Quality Permit – Administered by CDPHE, permit assumed to include surface and sub-surface discharge from St. Louis adit and ponds, and underlying groundwater, consistent with Water Quality Assessment (CDPHE, 2008)

2. Water Treatment System – Lime addition and pond settling system, designed and constructed to meet requirements of water quality permit. Monitoring at key locations in the Dolores River above and below the outfall will be used to ensure water quality standards are being met. As specified in the Water Quality Assessment and the discharge permit application, the treatment system and associated permit considers both surface and groundwater components. The system is assumed to be constructed in two phases to expedite implementation and compliance with permit. Construction is phased as follows: Phase 1 including the lime addition, upper ponds, and sludge management systems; and Phase 2 including any work needed on the lower ponds (post USFS property transfer), work to address any dam safety issues under the State Engineer's authority. Though early design work can proceed before the water permit is received, it is assumed final permit requirements are available before final design and construction is completed. Also, accumulated solids in the ponds will be removed for transfer to and placement in the repository only after the repository Certificate of Designating is received and the repository is fully constructed and ready for use.

3. Solids Repository – The Certificate of Designation process under state law applies to the design, construction and use of the proposed onsite repository for disposal of de-watered sludge from the water treatment system (i.e. pond bottom sediments). It is assumed the review (Dolores County and CDPHE), design and construction of the repository can proceed on a parallel and independent path from the water quality permit and water treatment system.

4. Ponds – The Ponds component of the treatment system includes determining, and complying with, applicable Colorado State Engineer requirements related to water impoundments. This does not include the use of these ponds as settling basins for precipitating metals from the water, which is addressed in the water quality permit and treatment system components. It is assumed the design and construction of the work on the ponds can proceed on a parallel and independent path from the water quality permit and water treatment system design.

5. Discharge Permit and Water Treatment Schedule – Schedule dates for completion of construction and shakedown/testing of the water treatment assume that: (1) permit limits are available from CDPHE in 2011, from which the design will be based; (2) Phase 1 of water treatment system is designed, constructed, and tested prior to issuance of permit; (3) the St. Louis discharge permit is issued no earlier than December 2013 in coordination with start-up and shakedown period; (4) the discharge must meet the permit limits immediately after the permit is issued; (i.e., a compliance schedule would be agreed upon that acknowledges the timing for enforcement of permit limits following the start-up / "shakedown period" of operations); and (5) accumulated pond solids in the ponds will be removed for transfer to and placement in the repository only after Certificate of Designation is received and the repository is fully constructed and ready for use.